DETAILED ACTION

Response to Amendment

1. Applicant's arguments filed on March 20, 2008 have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The rejections and/or objections in this office action are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

2. Regarding claim 1, applicants argue that:

Christie does not disclose "creating a media port that corresponds to the caller party equipment and a media port that corresponds to the called party equipment and establishing a mapping between the two media ports within the media interworking equipment," as previously recited in claim 2, now recited in claim 1. Indeed, the Examiner did not cite Christie as a teaching the above-quoted claim element which was cited in claim 2.

Examiner respectfully disagrees because:

The original claim 2, now canceled, did not previously recite "establishing a mapping between the two media ports" as asserted by the applicants. Additionally claim 1 has been further amended to change "a call that spans networks" to "a call between the heterogeneous networks", "port that spans networks" to "ports of the heterogeneous networks", inter alia. Despite these changes, claim 1 continues reading on the prior art reference of Christie. As a recap of the rejection of claim 1, Christie discloses creating a media port that corresponds to the caller party equipment

(connection to local device per Fig. 2 and col. 11, line 66 to col. 12, line 67) and media port that corresponds to the called party equipment (connection to ATM device per Fig. 2 and col. 11, line 66 to col. 12, line 67) and establishing a mapping between the two media ports within the media interworking equipment; (interworking unit performing any format conversion required between connections per Fig. 2 and col. 11, line 66 to col. 12, line 67).

3. Regarding claim 1, applicants argue that:

Christie's disclosure does not relate to the teleservice interworking between two "broadband heterogeneous networks," and Christie does not disclose the technical feature of the media interworking equipment creating two media ports respectively corresponding to a caller party equipment and a called party equipment, and establishing a mapping between the two media ports.

Examiner respectfully disagrees because:

As a recap of the rejection of claim 1, Christie indeed discloses a method of interworking teleservice between broadband heterogeneous networks (broadband-integrated digital services network (B-ISDN), SONET/SDH, ATM per col. 7, line 59 to col. 8, line 50). Christie further discloses other limitations of claim 1 as shown in the rejection of claim 1.

4. Regarding claim 1, applicants argue that:

Modarressi fails to disclose "creating a media port that corresponds to the caller party equipment and a media port that corresponds to the called party equipment and

establishing a mapping between the two media ports within the media interworking equipment," as recited in claim 1 (emphasis added).

Furthermore, Modarressi, page 101, left column, discloses that the RGs at both ends of the call respectively inform the MGC of a certain port on which the media streams can be received and the MGC then informs the calling RG and the egress RG of each other's ports. Thus, the RGs can know which port to send the media streams and which port to receive on. Therefore, Modarressi fails to disclose the technical feature of the media interworking equipment creating two media ports respectively corresponding to a caller party equipment and a called party equipment, and establishing a mapping between the two media ports.

Examiner respectfully disagrees because:

As a recap of the rejection of claim 1, Modarressi discloses creating a media port that corresponds to the caller party equipment and media port that corresponds to the called party equipment within the media interworking equipment; (Fig. 4; page 101, left col., last three bullet items)

Modarressi further discloses the trunk gateway/media gateway being connected to IP, ATM and PSTN networks and providing bearer connections to users (Fig. 4; page 100, right col.). It is obvious to one of ordinary skill in the art at the time of the invention that the gateway must support interworking to enable connectivity among the different bearer interfaces (IP, ATM, PSTN). Furthermore Modarressi discloses complete separation of bearer/connection control (i.e., media interworking) from call/session control (i.e., call control).

Thus the mapping between two media ports is established within the Trunk Gateway/Media Gateway of Modarressi.

5. Regarding claim 1, applicants argue that:

Modarressi only discloses a call setup procedure between two telephones within a packet network. In such a case, the claimed "media interworking equipment" would not be required. Therefore, Modarressi does not disclose a call interworking between two "broadband heterogeneous networks."

Examiner respectfully disagrees because:

As a recap of the rejection of claim 1, Modarressi discloses a method of interworking teleservice between broadband heterogeneous networks (IP and ATM networks per Fig. 4; next-generation network NGN including broadband services per page 96, last two para., page 97, first two para. and page 98, right col., first para.).

6. Regarding claim 8, applicants argue that:

Williams also fails to teach or suggest "creating a media port that corresponds to the caller party equipment and a media port that corresponds to the called party equipment and establishing a mapping between the two media ports within the media interworking equipment," as recited in claim 1, and required by claim 8.

Examiner respectfully disagrees because:

This limitation is taught by Christie as shown in the rejection of claim 1 of this office action.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 3, 4 and 11 are rejected under U.S.C. 103(a) as being unpatentable over Christie, et al (US 6,002,689).

Regarding claim 1, Christie discloses a method of interworking teleservice between broadband heterogeneous networks (broadband-integrated digital services network (B-ISDN), SONET/SDH, ATM per col. 7, line 59 to col. 8, line 50), the heterogeneous networks being connected by a call control equipment (signaling processor per Fig. 2) and a media interworking equipment (interworking unit per Fig. 2), the call control equipment being used for signaling interworking and controlling a call between the heterogeneous networks, the media interworking equipment being used for mapping media ports of the heterogeneous networks and transmitting media streaming under the control of the call control equipment (abstract; col. 7, line 59 to col. 8, line 2; col. 8, lines 40-50; col. 10, lines 11-20; col. 11, lines 24-35), the method comprising:

receiving a call request coming from a caller party equipment by the call control equipment; (col. 11, line 66 to col. 12, line 67)

determining by the call control equipment whether the call request of the caller party equipment is a call between the heterogeneous networks; (col. 11, line 66 to col. 12, line 67)

creating a connection between the media interworking equipment and the caller party equipment and a connection between the media interworking equipment and a called party equipment under the control of the call control equipment if the call request is the call between the heterogeneous networks; (col. 11, line 66 to col. 12, line 67) and

transmitting media streaming by the media interworking equipment and to realize media interworking; (col. 11, line 66 to col. 12, line 67)

wherein creating the connections comprises:

creating a media port within the caller party equipment; (connecting from interworking unit to local device per Fig. 2 and col. 11, line 66 to col. 12, line 67)

creating a media port that corresponds to the caller party equipment (connection to local device per Fig. 2 and col. 11, line 66 to col. 12, line 67) and media port that corresponds to the called party equipment (connection to ATM device per Fig. 2 and col. 11, line 66 to col. 12, line 67) and

creating a media port within the called party equipment. (connecting from interworking unit to ATM device per Fig. 2 and col. 11, line 66 to col. 12, line 67)

Christie does not explicitly disclose establishing a mapping between the two media ports within the media interworking equipment. However Christie discloses the interworking unit performing any format conversion required between connections (Fig. 2; abstract; col. 11, line 66 to col. 12, line 67) It is obvious to one of ordinary skill in the art at the time of the invention that format conversion of user communications involves mapping of data between the ports connecting the users.

Regarding claim 3, Christie further discloses wherein, before the step of transmitting media streaming, the method further comprises:

negotiating a media capability with the called party equipment by the caller party equipment; (col. 18, lines 20-53; col. 19, lines 52-64)

translating the format of the media streaming by the media interworking equipment if the media capability of the caller party equipment and a media capability of the called party equipment do not match. (col. 18, lines 20-53; col. 19, lines 52-64)

Regarding claim 4, Christie further discloses wherein, the step of translating the format of the media streaming comprises:

recovering incoming media streaming into original media streaming; (col. 18, lines 20-53; col. 19, lines 52-64)

re-encoding and compressing the original media streaming according to a desired format of the media streaming. (col. 18, lines 20-53; col. 19, lines 52-64)

Regarding claim 11, Christie further discloses a system of interworking teleservice between broadband heterogeneous networks, comprising:

a media interworking equipment (interworking unit per Fig. 2) which is connected between the heterogeneous networks and configured to transmit media streaming between the heterogeneous networks; (Fig. 2; abstract; col. 7, line 59 to col. 8, line 2; col. 8, lines 40-50; col. 10, lines 11-20; col. 11, lines 16-65)

a call control equipment (signaling processor per Fig. 2) which is connected between the heterogeneous networks and configured to process a call request between the heterogeneous networks, transmit signaling and control the media interworking equipment; (Fig. 2; abstract; col. 7, line 59 to col. 8, line 2; col. 8, lines 40-50; col. 10, lines 11-20; col. 11, lines 16-65)

wherein the media interworking equipment implements teleservice interworking between the heterogeneous networks by establishing a media port that corresponds to

a caller party equipment (connection to local device per Fig. 2 and col. 11, line 66 to col. 12, line 67) and a media port that corresponds to a called party equipment (connection to ATM device per Fig. 2 and col. 11, line 66 to col. 12, line 67) under the control of the call control equipment. (Fig. 2 and col. 11, line 66 to col. 12, line 67)

Christie does not explicitly disclose mapping the two media ports. However Christie discloses the interworking unit performing any format conversion required between connections (Fig. 2; abstract; col. 11, line 66 to col. 12, line 67) It is obvious to one of ordinary skill in the art at the time of the invention that format conversion of user communications involves mapping of data between the ports connecting the users.

5. Claims 1 and 11, in an alternative rejection, and claims 5-14 are rejected under U.S.C. 103(a) as being unpatentable over Modarressi, et al ("Control and Management in Next-Generation Networks: Challenges and Opportunities", IEEE Communications Magazine, October 2000; hereinafter Modarressi) in view of Christie, et al.

Regarding claim 1, Christie discloses a method of interworking teleservice between broadband heterogeneous networks (IP and ATM networks per Fig. 4; next-generation network NGN including broadband services per page 96, last two para., page 97, first two para. and page 98, right col., first para.), the heterogeneous networks being connected by a call control equipment (MGC/CA/Softswitch per Fig. 4) and a media interworking equipment (Trunk gateway/media gateway per Fig. 4), the call control equipment being used for signaling interworking and controlling a call between the heterogeneous networks (IP and ATM networks per Fig. 4), the media interworking

equipment being used for mapping media ports of the heterogeneous networks and transmitting media streaming under the control of the call control equipment (page 100, right col.), the method comprising:

receiving a call request coming from a caller party equipment by the call control equipment; (page 101, left col., first bullet item)

determining by the call control equipment whether the call request of the caller party equipment is a call between the heterogeneous networks; (page 101, left col., second bullet item)

creating a connection between the media interworking equipment and the caller party equipment (Trunk gateway/signaling gateway and left Residential Gateway per Fig. 4) and a connection between the media interworking equipment and a called party equipment (Trunk gateway/signaling gateway and PSTN/AIN/SS7 cloud per Fig. 4) under the control of the call control equipment (MGC/CA/Softswitch per Fig. 4) if the call request is the call between the heterogeneous networks; (call between packet network, e.g., IP, and PSTN per Fig. 4; page 101, left col., last three bullet items; last para. of left col. to first para. of right col.) and

transmitting media streaming by the media interworking equipment and to realize media interworking; (page 101, left col., last three bullet items; last para. of left col. to first para. of right col.)

wherein creating the connections comprises:

creating a media port within the caller party equipment; (Fig. 4; page 101, left col., last three bullet items)

creating a media port that corresponds to the caller party equipment and media port that corresponds to the called party equipment within the media interworking equipment; (Fig. 4; page 101, left col., last three bullet items) and

creating a media port within the called party equipment. (Fig. 4; page 101, left col., last three bullet items)

Modarressi does not explicitly disclose establishing a mapping between the two media ports. However Modarressi discloses the trunk gateway/media gateway being connected to IP, ATM and PSTN networks and providing bearer connections to users (Fig. 4; page 100, right col.). It is obvious to one of ordinary skill in the art at the time of the invention that the gateway must support interworking to enable connectivity among the different bearer interfaces (IP, ATM, PSTN). Furthermore Modarressi discloses complete separation of bearer/connection control (i.e., media interworking) from call/session control (i.e., call control). Christie from the same or similar fields of endeavor discloses a signaling processing performing call signaling and an interworking unit performing user communications (i.e., media) (Fig. 2, elements 202, 204; abstract; col. 11, line 66 to col. 12, last line). Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to combine Modarrassi's NGN architecture with Christie's interworking unit by implementing interworking/mapping function on the trunk gateway/media gateway. The motivation for doing so would have been to establish connections between different networks.

Regarding claim 5, Modarressi further discloses wherein, the call control equipment sends and receives control signaling via H.248 or MGCP protocol. (Megaco/H.248 per Fig. 4)

Regarding claim 6, Modarressi further discloses wherein at least two call control equipments (two MGCs per Fig. 4) are connected between the heterogeneous networks, and each of the at least two call control equipments controls a different party equipment, and wherein the method further comprises:

transmitting the call request by the call control equipment that controls the caller party equipment to the call control equipment that controls the called party equipment; (SIP-T per Fig. 4; page 100, right col.) and

designating one of the at least two call control equipments to control the media interworking equipment. (page 100, right col.)

Regarding claim 7, Modarressi further discloses wherein the signaling is transmitted between the call control equipments via a Session Initiation Protocol for Telephones or Bearer Independent Call Control Protocol. (page 102, left col., first two para.)

Regarding claim 8, Modarressi further discloses wherein at least two media interworking equipments are connected between the heterogeneous networks, and each of the at least two media interworking equipments is connected to a different network (Fig. 4, Residential Gateways (RW) in IP and ATM networks), and wherein the method further comprises:

establishing a media connection between the media interworking equipment (Trunk Gateway/Media Gateway per Fig. 4) connected to the caller party equipment's network (connection to left RW in IP network per Fig. 4) and the media interworking equipment connected to the called party equipment's network (connection to right RW in ATM network).

Regarding claim 9, Modarressi further discloses wherein one of the heterogeneous networks is a H.323 network which includes a gate keeper and a H.323 gateway; and the connection between the media interworking equipment and a party equipment in the H.323 network is established by the call control equipment and the gate keeper controlling the H.323 gateway. (page 102, left col., first two para.) Examiner takes official notice that a gate keeper and H.323 gateway are inherent capabilities of a H.323 network according to standards specifications.

Regarding claim 10, Modarressi further discloses wherein one of the heterogeneous networks is a SIP network which includes a SIP proxy and a SIP user agent; and the connection between the media interworking equipment and a party equipment in the SIP network is established by the call control equipment and the SIP proxy controlling the SIP user agent. (page 102, left col., first two para.) Examiner takes official notice that a SIP proxy and a SIP user agent are inherent capabilities of a SIP network according to standards specifications.

Regarding claim 11, Modarressi further discloses a system of interworking teleservice between broadband heterogeneous networks, comprising:

a media interworking equipment (Trunk gateway/media gateway per Fig. 4) which is connected between the heterogeneous networks and configured to transmit media streaming between the heterogeneous networks; (page 100, right col.)

a call control equipment (MGC/CA/Softswitch per Fig. 4) which is connected between the heterogeneous networks and configured to process a call request between the heterogeneous networks, transmit signaling and control the media interworking equipment; (page 100, right col.)

wherein the media interworking equipment implements teleservice interworking between the heterogeneous networks by establishing a media port that corresponds to a caller party equipment and a media port that corresponds to a called party equipment under the control of the call control equipment. (page 100, right col.; page 101)

Modarressi does not explicitly disclose mapping the two media ports. However Modarressi discloses the trunk gateway/media gateway being connected to IP, ATM and PSTN networks and providing bearer connections to users (Fig. 4; page 100, right col.). It is obvious to one of ordinary skill in the art at the time of the invention that the gateway must support interworking to enable connectivity among the different bearer interfaces (IP, ATM, PSTN). Furthermore Modarressi discloses complete separation of bearer/connection control (i.e., media interworking) from call/session control (i.e., call control). Christie from the same or similar fields of endeavor discloses a signaling processing performing call signaling and an interworking unit performing user communications (i.e., media) (Fig. 2, elements 202, 204; abstract; col. 11, line 66 to col. 12, last line). Thus it would have been obvious to the person of ordinary skill in the art

at the time of the invention to combine Modarrassi's NGN architecture with Christie's interworking unit by implementing interworking/mapping function on the trunk gateway/media gateway. The motivation for doing so would have been to establish connections between different networks.

Regarding claim 12, Modarressi further discloses wherein, the media interworking equipment comprises:

a protocol module for receiving control data from the call control equipment, creating the media ports and establishing correspondence relationship of the media ports; (page 101) and

a media transmitting and mapping unit for transmitting the media streaming that comes into the media interworking equipment according to the established correspondence relationship. (page 101)

Regarding claim 13, Modarressi further discloses wherein, the media interworking equipment further comprises:

a media translating unit for processing format translation for the media streaming when media capabilities or formats of the caller party equipment and the called party equipment do not match. (page 101)

Regarding claim 14, Modarressi further discloses wherein, the call control equipment comprises:

a protocol adapter for receiving and sending control data and receiving the call request coming from the caller party equipment; (page. 101)

a call server for controlling the call request between the heterogeneous networks. (application server per Fig. 4; page 101)

6. Claim 8, in an alternative rejection, is rejected under U.S.C. 103(a) as being unpatentable over Christie, et al in view of Williams ("The Softswitch Advantage", IEE Review, July 2002).

Regarding claim 8, Christie discloses all of the subject matter as recited in paragraph 9 of this office action except wherein at least two media interworking equipments are connected between the heterogeneous networks, and each of the at least two media interworking equipments is connected to a different network, and wherein the method further comprises:

establishing a media connection between the media interworking equipment connected to the caller party equipment's network and the media interworking equipment connected to the called party equipment's network.

Williams from the same or similar fields of endeavor discloses two or more media gateways are connected between a public packet telephone network (PPTN) and a public packet mobile network (PPMN), whereas a media connection is established between the media gateway in the PPTN (node 4 per Fig. 2) and the radio access network media gateway in the PPMN (node 5 per Fig. 2; page 28; page 29, left col.). Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to combine Christie's interworking system with Williams' support of multiple media gateways by configuring two or more media gateways between two

networks. The motivation for combining would have been to enable growth and maintenance of the networks.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see form 892).

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Examiner's Note: Examiner has cited particular paragraphs, columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing

responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and, also to verify and ascertain the metes and bounds of the Claimed invention.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luat Phung whose telephone number is 571-270-3126. The examiner can normally be reached on M-Th 7:30 AM - 5:00 PM, F 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LP

/Huy D. Vu/

Supervisory Patent Examiner, Art Unit 2616